SPECTRUM®

**SEHI
Management Module Guide**

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Contents

Preface

Chapter 1   Introduction

Chapter 2   Device View

Chapter 3   Configuration Views

Chapter 4   Event and Alarm Messages

Index

Figures

Chapter 1   Introduction

Chapter 2   Device View

Tables

Chapter 1   Introduction

Chapter 2   Device View

Chapter 4   Event and Alarm Messages

Preface

Use this guide if you are going to manage an SEHI device through SPECTRUM. Before reading this manual, you should be familiar with SPECTRUM's functions. You should also be familiar with any network management and hardware requirements described in the SEHI documentation.

What is in this Guide

The Cabletron Systems Stackable Ethernet Hub (SEHI) Management Module Guide serves as a reference guide to the corresponding management module software. The following chapter descriptions outline the organization of the *SEHI Management Module Guide*.

Chapter	Description
Chapter 1 **Introduction**	Describes the SEHI management module and model types.
Chapter 2 **Device View**	Describes the Device View's representation of an SEHI, as well as the views available from the Device Menu.
Chapter 3 **Configuration Views**	Describes the configuration views for the SEHI model and the device-specific management information provided by each view.
Chapter 4 **Event and Alarm Messages**	Contains a listing and explanation of the alarm/event messages generated in the Event Log or Alarm Log View for the SEHI model type.

Conventions

In this manual, the following conventions are used:

- Command names are printed in **bold**; for example, **Clear** or **Save & Close**.

- Menu selections to access a view are printed in **bold**; for example, **Configuration** or **Detail**.

- Buttons are represented by a shadowed box; for example, Help .

Related SPECTRUM Documentation

Refer to the following documentation for more information on using SPECTRUM:

SPECTRUM Report Generator User's Guide

Getting Started with SPECTRUM

Getting Started with SPECTRUM for Administrators

How to Manage Your Network with SPECTRUM

Other Related Documentation

Refer to the following documentation for more information on managing TCP/IP-based networks:

LAN Troubleshooting Handbook, Mark Miller (1989, M&T Publishing, Inc.)

The Simple Book — An Introduction to Management of TCP/IP-based Internets, Marshall T. Rose, Performance Systems International, Inc.

Computer Networks, Andrew S. Tanenbaum, Prentice-Hall, Inc.

Local Area Networks Architectures and Implementations, James Martin & Kathleen K. Chapman or the Arben Group, Inc. (1989, Prentice-Hall, Inc.)

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For additional support for SPECTRUM products, or to make comments or suggestions regarding SPECTRUM or this manual, contact Cabletron Systems Technical Support via one of the following means:

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Chapter 1

Introduction

What is in this Chapter

This chapter describes the SPECTRUM Management Module for the SEHI. It also provides the model type name assigned to the SEHI in SPECTRUM. The model type name refers to the template used to specify attributes, actions, and associations for device models in SPECTRUM.

SEHI Management Module

The SPECTRUM SEHI Management Module manages SEHI devices using the SNMP network management agent and the Management Information Bases (MIBs), which come as part of the management module. Table 1-1 lists the supported device models and descriptions.

Table 1-1.   Supported Device Models

Device Model	Description
SEHI-22, SEHI-24	Intelligent, 13 (12 RJ45s, 1 EPIM) and 26 (24 RJ45s, 2 EPIMs) ports
SEHI-32, SEHI-34	Intelligent, 13 (1 RJ71, 1 EPIM) and 26 (2 RJ71s, 2 EPIMs) ports
SEHI-xxS	SEHI devices with LANVIEWSecure functionality

Table 1-1. **Supported Device Models (Continued)**

Device Model	Description
SEH-32, SEH-34	Non-intelligent, 13 (1 RJ71, 1 EPIM) and 26 (2 RJ71s, 2 EPIMs) ports
SEH-22, SEH-24	Non-intelligent, 13 (12 RJ45s, 1 EPIM) and 26 (24 RJ45s, 2 EPIMs) ports

SPECTRUM and the SEHI

The SEHI is an intelligent stackable ethernet hub designed to provide advanced management capabilities for up to five non-intelligent stackable ethernet hubs. It is fully IEEE 802.3 compliant, and provides complete port error breakdown, port to address matching, and monitoring of network traffic. It contains twelve or twenty-four RJ45 or RJ71 station ports. One or two modular EPIMs provide additional ports supporting ethernet coax, fiber optic, STP, or UDP cabling.

NOTE

If you are running a previous version of SPECTRUM, the following user interface aspects may differ from those in SPECTRUM version 4.0:

- *Order and names of menu selections*

- *Navigational features (mouse button functionality)*

NOTE

If you need to create a SEHI model manually, you must start within a LAN_802.3 model. The SEHI cannot be manually modeled at the Universe topology level.

SEHI Applications

The SEHI supports both common and device-specific applications. SPECTRUM management of the SEHI is based on the following common and device-specific applications:

- MIB-II (SNMP2_Agent)
    - IP (IP2_App)
    - System (System2_App)
    - ICMP (ICMP_App)
    - UDP (UDP2_App)
- DownLoad App (CtDownLoadApp)
- Stackable Repeater (StackableRptr)

The device-specific Stackable Repeater application provides Stackable Repeater performance, device, configuration and model information views. The Stackable Repeater Device view is the same as the Chassis Device view, which is detailed in Chapter 2, *Device View.*
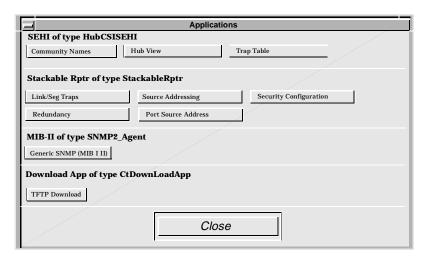
SPMA and the SEHI

SPECTRUM also includes SPMA (Spectrum Portable Management Application) for the SEHI. SPMA management functionality is available from the Utilities Submenu, which can be accessed from any SPECTRUM view. To open the Application view, which provides access to SPMA management, do the following:

1. Select **Icon Subviews** from the View Menu or click the right mouse button.

2. Select **Utilities** from the Icon Subviews Menu.

3. Select **Applications** from the Utilities Menu.

The SPMA Application View provides buttons to select SPMA-specific views and dialog boxes. An example of an SPMA Application View is provided below.

Figure 1-1.   **Applications View**

For information on the function of the specific SPMA tools, please refer to the following SPMA books provided with SPECTRUM:

For details on the Hub View, Link/Seg Traps, Source Address, Repeater Redundancy and Security refer to the following chapters in *SPECTRUM Portable Management Application for the SEHI-22/24 and SEHI-32/34:*

- Chapter 2, *Using the SEHI Hub View*, describes the visual display of the Hub and explains how to use the mouse within the Hub View; the operation of some basic functions available only from within the Hub View (changing the Hub View display, opening menus and windows, enabling and disabling ports, checking device and port status, and so on) are also described.

- Chapter 3, *Link/Seg Traps*, describes how to configure link and segmentation traps to suit your management needs. You can access the Link/Seg Traps application from the icon menu, the Hub View, or the command line.

- Chapter 4, *Repeater Redundancy*, describes how to configure redundant circuits to keep your network connections up and running in the event of a single port failure.

- Chapter 5, *Source Address*, describes how to display the Source Address List, how to set the aging time, and how to configure source address traps; it also discusses the effects of some address locking. You can access the Source Address application from the icon menu, the Hub View, or the command line.

- Chapter 6, *Security*, describes how to configure intruder protection for all the MIMs installed in the SEHI-controlled hubstack, and how to configure eavesdropper protection for any installed LANVIEWSecure hubs. You can access the Security application from the icon menu, the Hub View, or the command line.

For details on Generic SNMP (MIB I II), Community Names, TFTP DownLoad, and Trap Table, refer to the following chapters in the *SPECTRUM Portable Management Application Tools Guide*:

- Chapter 2, *Using the MIB I, MIB II Tool*, explains how to use this tool to view and change MIB I and MIB II object ID values. You can use the MIB I, MIB II Tool on any devices, including non-Cabletron devices, that support MIB I or MIB II.

- Chapter 3, *Using the Community Names Tool*, explains Cabletron's "Component" structure of device MIBs, and describes how to change device community names.

- Chapter 5, *Using the TFTP DownLoad Tool*, explains how to upgrade firmware on Cabletron devices equipped with Flash EEPROMs.

- Chapter 6, *Using the SNMP Traps Tool*, explains how to establish which network management workstations on your network will receive trap alarms from a selected device, and also provides a brief overview of some of the traps supported by Cabletron Systems' devices.

Chapter 2

Device View

What is in this Chapter

This chapter provides a description of the Device View for the SEHI Management Module, including an explanation of how to use the Physical and Chassis Device Views.

- The Chassis Device View allows you to view the logical representations of the SEHI stack.

- The Physical Device View displays a physical representation of the SEHI device or stack.

These Device Views show the configuration of the SEHI device and ports.The Device View also provides you with menu bar access to views that monitor and control the SEHI and its ports.
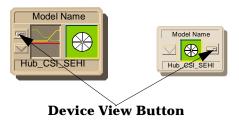
Chassis Device View

This section describes information available from the SEHI Chassis Device View.

The logical device representation provides gauges and information about the individual devices and their ports instead of presenting a physical image. The logical device is divided into two areas. The Device Icon area presents information about the device, and the Port Icon area presents information about each port. Figure 2-1 shows an example of an SEHI Chassis Device View.

Accessing the Chassis Device View

The Chassis Device View is accessed using one of the following methods:

- Double-click on the Device View button of the SEHI device icon. This will open the Device View that was opened last (i.e. Chassis or Physical).

Device View Button

- Highlight the SEHI device icon and select **Device** -> **Chassis** from the Icon Subviews menu.

Figure 2-1.   **Chassis Device View**

Primary Landscape 0x00400000 - VNM eskimo - SEHI24of type HUBCSISEHI
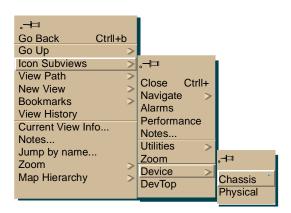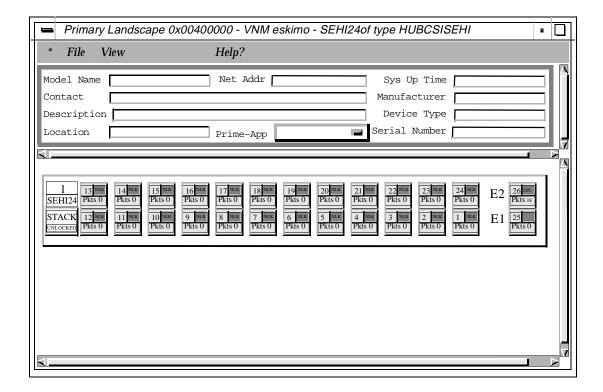
Logical Device Icon

The Logical Device Icon (refer to Figure 2-2) has specific double-click zones
and two pop-up menus. To access a menu, position the cursor on the menu
access zone and press the right mouse button. Menu selections are made by
pressing either the right or left mouse button on the menu item. You can also
access a menu by single-clicking on the menu access zone, and then selecting
Icon Subviews from the View menu.

Logical Device Icon Components

The Logical Device Icon consists of several areas providing information pertaining to the device. These areas have the following functions:

Device Number
Displays the number of the module in the stack, and provides a menu access zone for the Device Icon Menu. Double-clicking on this zone opens the Notes Facility.

Device Label
Displays the type of physical device being modeled, and provides a menu access zone for the Device Icon Menu. Double-clicking on this zone opens the Module Performance View.

STACK
Provides a menu access zone for Stack specific subviews, and a menu access zone for the Stack Menu. Double-clicking on this button opens the Stack Configuration View.
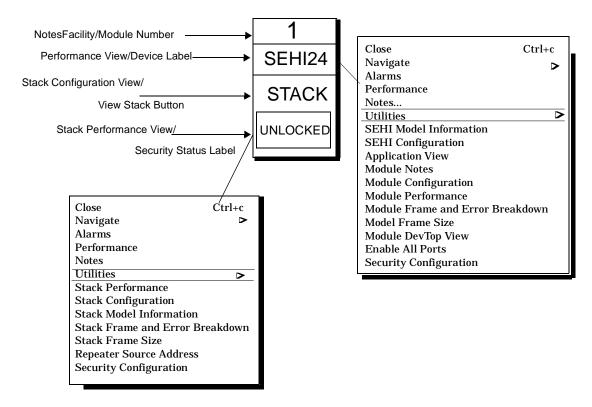
LOCKED/UNLOCKED/MISMATCHED
Displays the status of port security on the stack, and provides a double-click zone that opens the Stack Performance View.

Figure 2-2 provides a breakdown of the device icon, its applicable double-click zones, and the subview menu zones. Table 2-1 and Table 2-2 provide definitions of the menu selections for the two zones.

Figure 2-2.   Device Icon Detail

NotesFacility/Module Number ——————→

Performance View/Device Label——————→

Stack Configuration View/

View Stack Button ——————→

Stack Performance View/

Security Status Label

```
┌──────────┐
│    1     │
├──────────┤
│  SEHI24  │
├──────────┤
│  STACK   │
├──────────┤
│ UNLOCKED │
└──────────┘
```

Close	Ctrl+c
Navigate	➤
Alarms	
Performance	
Notes...	
Utilities	➤
SEHI Model Information	
SEHI Configuration	
Application View	
Module Notes	
Module Configuration	
Module Performance	
Module Frame and Error Breakdown	
Model Frame Size	
Module DevTop View	
Enable All Ports	
Security Configuration	

Close	Ctrl+c
Navigate	➤
Alarms	
Performance	
Notes	
Utilities	➤
Stack Performance	
Stack Configuration	
Stack Model Information	
Stack Frame and Error Breakdown	
Stack Frame Size	
Repeater Source Address	
Security Configuration	

NOTE

*For more information on Performance and Frame and Error Breakdown views, refer to **SPECTRUM Views***

Table 2-1.   Device Icon Menu Selections

Menu Selection	Description
Navigate	Opens the Navigator sub-menu, allowing you to Navigate In or Up. For more information on the Navigator sub-menu refer to **SPECTRUM Views**.
Alarms	Opens the Alarm View containing alarms (if any) for the model.Refer to **SPECTRUM Views**.
Notes	Opens the SPECTRUM Notes facility for the device. Refer to **SPECTRUM Views**.

Table 2-1. **Device Icon Menu Selections (Continued)**

Utilities	Opens the Utilities sub-menu, which includes these choices: Attribute Browser, Applications, Enterprise ConfigManager, MIB Tools, PathView, WatchManager and Ping.For more information on Applications, refer to the *Introduction*.
SEHI Model Information	Opens the SEHI Model Information View. See ***SPECTRUM Views***.
SEHI Configuration	Opens the SEHI Device Configuration View. For more information, refer to Chapter 3, *Configuration Views*.
Application View	Opens the SEHI Application View, Refer to ***SPECTRUM Views***.
Module Notes	Opens the SPECTRUM Module Notes facility.
Module Configuration	Opens the Module Configuration View. For more information, refer to Chapter 3, *Configuration Views*.
Module Performance	Opens the Module Performance View. This view is the same as the Device Performance View, but provides statistics pertaining to the module. For more information Performance views, refer to ***SPECTRUM Views***.
Module Frame & Error Breakdown	Opens the Module Frame & Error Breakdown View, which provides the same information as described in *Stack Frame and Error Breakdown*, on page 2-8.
Module Frame Size	Opens the Frame Size View for the module, which provides the same information as described in *Stackable Repeater Frame Size View*, on page 2-9
Module DevTop	Opens the Module Device Topology View for the selected module. For more information on DevTop views, refer to ***SPECTRUM Views***.
Enable All Ports	Displays the Enable All Ports view, which allows you to enable all the ports on the module.
Security Configuration	Opens the Channel A Module Security window. Refer to Chapter 6, *Security*, of the *SPECTRUM Portable Management for the SEHI-22/24 and SEHI-32/34*.

Table 2-2. **Stack Menu Selections**

Menu Selection	Description
Navigate	Opens the Navigator sub-menu, allowing you to Navigate In or Up. For more information on the Navigator sub-menu refer to ***SPECTRUM Views***.
Alarms	Opens the Alarm View containing alarms (if any) for the model. Refer to ***SPECTRUM Views***.

Table 2-2.   **Stack Menu Selections (Continued)**

Menu Selection	Description
Notes	Opens the SPECTRUM Notes facility for the device.
Utilities	Opens the Utilities sub-menu, which includes these choices: Attribute Browser, Applications, Enterprise ConfigManager, MIB Tools, PathView, WatchManager and Ping.For more information on Applications, refer to the *Introduction.*
Stack Performance	Opens the Stack Performance View. This view is the same as the Device Performance View, but provides statistics pertaining to the stack. For more information on Performance views, refer to ***SPECTRUM Views***.
Stack Configuration	Opens the Stackable Configuration View, which is described further in Chapter 3. *Configuration Views.*
Stack Model Information	Opens the Stackable Model Information View, which is described further in Chapter 3. *Configuration Views*
Stack Frame & Error Breakdown	Opens the Frame and Error Breakdown View for the stack. See page 2-8 for more information.
Stack Frame Size	Opens the Frame Size View for the stack. See for more information.
Repeater Redundancy	Opens the Channel A Redundancy Window. Refer to Chapter 4, *Repeater Redundancy*, in the *SPECTRUM Portable Management Application for the SEHI-22/24 and SEHI-32/34.*
Repeater Source Address	Opens the Channel A Source Address Window. Refer to Chapter 5, *Source Addressing*, in the *SPECTRUM Portable Management Application for the SEHI-22/24 and SEHI-32/34.*
Security Configuration	Opens the SPMA Channel A Security Window. Refer to Chapter 6, *Security*, of the *SPECTRUM Portable Management for the SEHI-22/24 and SEHI-32/34.*

Stack Frame and Error Breakdown

This view provides two color-coded pie charts presenting a breakdown of frame and error statistics. Each statistic is presented as a total amount since the SEHI was initialized and as a percentage of overall traffic. The statistics provided by the Frame Breakdown Pie Chart and Error Breakdown Pie Chart are described below.

Frame Breakdown Pie Chart

Good Frames
The total number of good frames detected on this device.

Collisions
The total number of collisions detected by this device.

Errors
The total number of errors detected by this device.

Error Breakdown Pie Chart

Giants
The total amount of giant packets received by this device. A giant packet exceeds 1518 bytes, not including preamble.

Runts
The total amount of runt packets received by this device. A runt packet is one byte less than the standard Ethernet frame of 64 bytes, not including preamble.

Alignment
The total number of misaligned packets detected on this device.

CRC
The total number of packets received by this device with bad Cyclical Redundancy Checks (CRCs).

OOW Collisions
The total amount of collisions out of the standard window (51.2µs) due to a network problem.

Stackable Repeater Frame Size View

This view provides a color-coded pie chart presenting a breakdown of frame size statistics. Each statistic is presented as a total amount since the SEHI was initialized and as a percentage of overall traffic.

Frame Breakdown Pie Chart

Runts
The total number of frames less than 64 bytes in size seen on this device.

64-127 Bytes
The total number of frames between 64 and 127 bytes in size seen on this device.

128-255 Bytes
The total number of frames between 128 and 255 bytes in size seen on this device.

256-511 Bytes
The total number of frames between 256 and 511 bytes in size seen on this device.

512-1023 Bytes
The total number of frames between 512 and 1023 bytes in size seen on this device.

1024-1518 Bytes
The total number of frames between 1024 and 1518 bytes in size seen on this device.

Giants
The total number of frames greater than 1518 bytes in size seen on this device.
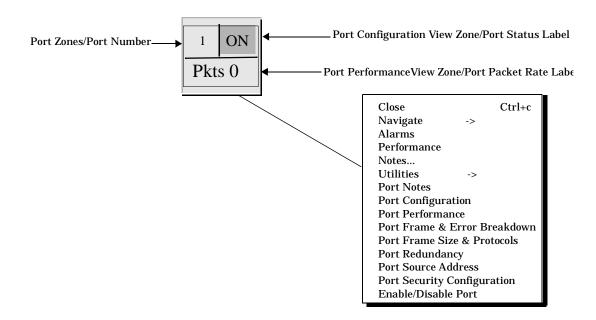
NOTE	*The views described above provide the same information as the Stackable Repeater Application view that is available by highlighting the Stackable Rptr icon in the SEHI Application view and choosing* **Device** *from the Icon Subviews menu.*

Logical Port Icons

The Logical Port Icons have specific double-click zones and a pop-up Port Menu. To access the Port Menu, position the cursor on a logical port icon and press the right mouse button. Menu selections are made by pressing either the right or left mouse button. You can also access the Port Menu by single-clicking on a logical port icon, and then selecting **Icon Subviews** from the View menu. Figure 2-3 provides a breakdown of the port icon, its applicable double-click zones, and the Port Menu selections. Table 2-3 provides definitions of the Port Menu selections.

Figure 2-3. **Port Icon Detail**

Port Zones/Port Number

1 ON

Pkts 0

Port Configuration View Zone/Port Status Label

Port PerformanceView Zone/Port Packet Rate Label

```
Close                Ctrl+c
Navigate         ->
Alarms
Performance
Notes...
Utilities         ->
Port Notes
Port Configuration
Port Performance
Port Frame & Error Breakdown
Port Frame Size & Protocols
Port Redundancy
Port Source Address
Port Security Configuration
Enable/Disable Port
```

Logical Port Icon Components

The Logical Port Icons consist of three areas providing information pertaining to the ports (refer to Figure 2-3). These areas have the following functions:

Port Number
The specific number of this port. Double-clicking on this zone opens the Port Notes facility.

Port Status
The status of the port, as follows:

ON	Green
SEG (Segmented)	Red
NLK (No Link)	Yellow
UNK (Unknown)	Blue
OFF	Blue

Port Packet Rate
Displays the current packet rate for this port, both as a numerical value, and a graphical bar gauge.

Table 2-3. **Port Icon Menu Selections**

Menu Selection	Description
Navigate	Opens the Navigator sub-menu, allowing you to Navigate In or Up. For more information on the Navigator sub-menu refer to **SPECTRUM Views**.
Alarms	Opens the Alarm View containing alarms (if any) for the model. Refer to **SPECTRUM Views**.
Notes	Opens the SPECTRUM Notes facility for the device. Refer to **SPECTRUM Views**.
Utilities	Opens the Utilities sub-menu, which includes these choices: Attribute Browser, Applications, Enterprise ConfigManager, MIB Tools, PathView, WatchManager and Ping.For more information on Applications, refer to the *Introduction*.
Port Notes	Opens the SPECTRUM Port Notes facility.
Port Configuration	Opens the Port Configuration View, which is described further in Chapter 3, *Configuration Views*.
Port Performance	Opens the Port Performance View. This view is the same as the Device Performance View, but provides statistics pertaining to the port. For more information on Performance views, refer to **SPECTRUM Views**.
Port Frame & Error Breakdown	Opens the Frame & Error Breakdown View for the selected port. Refer to **SPECTRUM Views.**
Port Frame Size & Protocols	Opens the Frame Size View for the selected port. Refer to **SPECTRUM Views.**
Port Redundancy	Opens the Channel A Redundancy Window. Refer to Chapter 4, *Repeater Redundancy* in the *SPECTRUM Portable Management Application for the SEHI-22/24 and SEHI-32/34.*

Table 2-3. **Port Icon Menu Selections (Continued)**

Menu Selection	Description
Port Source Address	Opens the Port Source Address List, which is described on on page 2-13. .
Port Security Configuration	Opens the SPMA Channel A Port Security Window. Refer to Chapter 6, *Security*, of the *SPECTRUM Portable Management for the SEHI-22/24 and SEHI-32/34*.
Enable/Disable Port	Displays the Enable/Disable Port View, which allows you to toggle the selected port between enabled and disabled states.

Source Address

Source Address Tables are used to determine which frames will be forwarded through the SEHI from one network segment to another. This section provides a description of the source address views used to establish a source address table for the SEHI.

Repeater Source Address View

You can access the Repeater Source Address View by highlighting the SEHI Logical Module STACK Button (refer to Figure 2-2), or single-clicking on the Logical Module STACK Button with the right mouse button, and selecting **Repeater Source Address** from the Icon Subviews menu. The Repeater Source Address window will appear. For information about this view, refer to Chapter 5, *Source Address*, of the *SPECTRUM Portable Management Application for the SEHI-22/24 and SEHI-32/34*.

Port Source Address List

The Port Source Address List contains the MAC address and its associated vendor name for each device communicating through a specific port on the SEHI or hubstack. You can access this view by highlighting the Logical Module Port Icon (refer to Figure 2-3), or single-clicking on the Logical Module Port Icon with the right mouse button, and selecting **Port Source Address** from the Icon Subviews menu. For more information on this view, refer to Chapter 2, *Using the SEHI Hub View*, of the *SPECTRUM Portable Management Application for the SEHI-22/24 and SEHI-32/34*.

Security Configuration

The Security Configuration feature allows you to establish security for a designated repeater channel and the ports associated with that channel on LANVIEWSecure (designated by the letter S at the end of the model name, e.g., SEHI-32S) SEHI models. These Device View security features, accessed by choosing **Security Configuration** from the Stack and/or Port Icon menus, are based on SPECTRUM Portable Management Application (SPMA) functionality. For more detailed information about how to use the SPMA security windows, refer to Chapter 6, *Security*, of the *SPECTRUM Portable Management Application for the SEHI-22/24 and SEHI-32/34*.

The security feature prevents any new source address from accessing the ports connected to the selected repeater channel. When a new source address attempts to access a port, that source address is compared to the source addresses in that port's source address table. For a station port (a port detecting zero or one source addresses at the time locking was enabled), if the accessing source address is not found in the table, the port will automatically shut down.

For a trunk port (a port detecting two or more source addresses at the time locking was enabled), there is no port shut down security feature. If port locking is enabled, network traffic will continue to be allowed to pass.

Any unlinked station or trunk port will also shut down once locking is enabled, since their source address tables are empty.

While locking is enabled, each port's topology status (station or trunk) remains fixed and will not change regardless of any changes in the number of source addresses detected.

Enabling a Backup Network Port

Once you have enabled the locking feature for a specified repeater channel, you will not be able to change your network connection unless you have placed an additional port in a trunk state. If the channel is locked, changing the network connection to a station port causes the port to shut down. To place an additional port in a trunk state before locking the repeater channel, follow these steps:

1. Highlight the port icon representing the port you want to place in a trunk state.

2. Select **Port Configuration** from the Icon Subviews menu.

3. Set the Set Topological State button to "Forced_Trunk."

The Topological State button will now read "Trunk."

NOTE

If you are going to enable redundancy, it is not necessary to place an additional port in a trunk state. All ports associated with the redundant circuit will automatically be in a trunk state.

Physical Device View
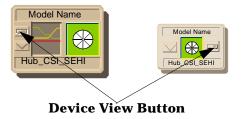
The Physical Device View is accessed by selecting Device from the Icon Subviews menu and then selecting Physical from the Device menu.Figure 2-4 shows an example of a SEHI Physical Device View.

Accessing the Physical Device View
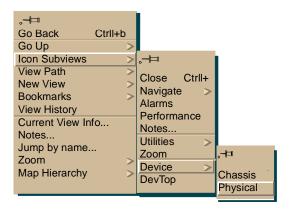
The Physical Device View is accessed using the following methods:

- Double-click on the Device View button of the SEHI device icon. This will open the Device View that was opening last (i.e., Chassis or Physical).

Device View Button
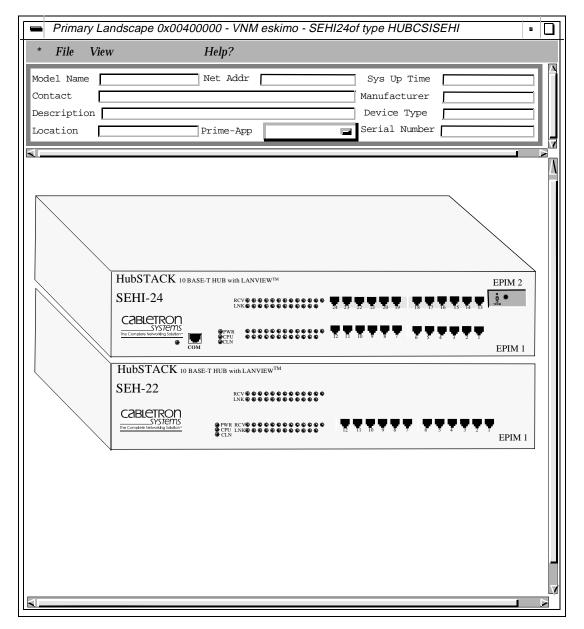
- Highlight the SEHI device icon and select **Device** -> **Physical** from the Icon Subviews menu.

Figure 2-4. **SEHI Physical Device View**

Chapter 3

Configuration Views

What is in This Chapter
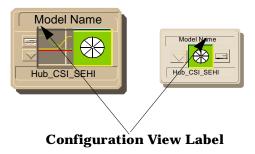
This chapter provides general descriptions of the configuration views that are available for the SEHI. These views allow you to access device-specific configuration information. The SEHI management module supports the following configuration views:

- Device
- Module
- Port
- Stackable
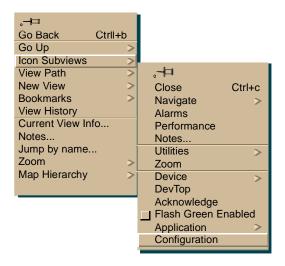
SEHI Device Configuration View

The Device Configuration View provides information on the configuration and operating status of the SEHI and allows you to modify the values of some fields. Access the Device Configuration View using one of the following methods:

- Double-click on the Configuration View Label of the SEHI device icon.

Configuration View Label

Highlight the SEHI device icon and select **Configuration** from the Icon Subviews menu.

The Device Configuration View is divided into a main section, and two subsections. The main section provides the following information:

Firmware Revision
Displays the firmware revision for the device being modeled.

Hardware Revision
Displays the hardware revision for the device being modeled.

MAC Address
Displays the Physical (Ethernet) address for the device being modeled.

Chassis Table Information

This section of the Device Configuration View provides the following buttons pertaining to the components in the stack:

Component Table

Click on this button to access the Community Names tool. The Community Names tool lets you quickly view and change community names for any MIB component. It also allows you to enable or disable certain MIB components to free up system resources. For more information on this tool, refer to the *Spectrum Portable Management Application (SPMA) Tools Guide.*

Slot Table

This button opens the SEHI Slot Table, which provides information about the types and positions of devices in the stack. You can sort, find, and update the information contained in the table with the buttons at the top left of the table. To activate the **Sort** or **Find** buttons, click on a column heading. Clicking on the **Sort** button will sort the selected column. The **Find** button allows you to search the column for a specific entry. The **Update** button updates the information contained in the entire table. The SEHI Slot Table provides the following information:

Slot
The number identifying this module's position in the stack. The SEHI is always in position 1.

Comp
The number identifying the type of component running in this slot. This number corresponds to an ID number in the Component Table.

Name
The textual description identifying this module.

Type
The OID string identifying this module's device type.

Version
The hardware revision number for this module.

> **Trap Table**

The Trap Table window is where you enable and disable traps and specify the IP address of the management workstation that receives and processes the trap messages. (Refer to the *SPMA Tools Guide* for more information.)

DownLoad Application

This section of the Device Configuration View provides the following button pertaining to the DownLoad Application for the device:

> **Download**

Click on this button to access the TFTP DownLoad tool. The TFTP Download tool lets you set up the download parameters and control the download. In addition, the TFTP Download tool can direct a device to use firmware located on a network server instead of booting from code located on the device. (Refer to the *SPMA Tools Guide* for more information.)

SEHI Module Configuration View

You can access this view from the SEHI Device Chassis View by clicking on the module to highlight it and then selecting **Module Configuration** from the Icon Subviews menu. The Module Configuration View provides information on the configuration of the selected module and allows you to modify some of the values.

Module Management

This section of the Module Configuration View provides the following information on the module port configuration:

Port Count
Displays the total number of ports on this module.

Ports On
Displays the number of ports on the module with a status of ON or NLK.

Ports Operational
Displays the number of ports on the module that are currently transmitting or receiving packets.

> **Module Ports**

This button allows you to enable all ports on the module by selecting **Enable**.

Trap Configuration

This section of the Module Configuration View provides the following buttons controlling the configuration of the module traps:

> **Link Traps**

This button enables or disables Link traps for all ports on this module. Changing the value for the stack or device level overrides this setting.

> **Segmentation Traps**

This button enables or disables Segmentation traps for all ports on this module. Changing the value for the stack or device level overrides this setting.

SEHI Port Configuration View

You can access this view from the SEHI Device Chassis View by clicking on the port to highlight it and then selecting **Port Configuration** from the Icon Subviews menu.The Port Configuration View provides information on the configuration of the selected port and allows you to modify some values.

Port Management

This section of the Port Configuration View provides the following information:

Port ID
Displays the number identifying this port on this module.

> **Administrative Status**

This button enables or disables the selected port.

Operational Status
Displays whether the port is Operational or Not-Operational.

Segmentation Status
Displays whether the port is Segmented or Not-Segmented.

Link Status
Displays whether the port is Linked or Not-Linked.

Topological State
See *Enabling a Backup Port* in Chapter 2, *Device View.*

Set Topological State
See *Enabling a Backup Port* in Chapter 2, *Device View.*

Trap Configuration

This section of the Port Configuration View provides the following buttons controlling the configuration of the port traps:

Link Traps

This button enables or disables Link traps for this port. Changing the value for the module, stack, or device level overrides this setting.

Segmentation Traps

This button enables or disables Segmentation traps for this port. Changing the value for the module, stack, or device level overrides this setting.

SEHI Stackable Configuration View

You can access this view by selecting **Stack Configuration** from the Icon Subviews menu for the **STACK** button in the Chassis Device View. The Stackable Configuration View provides information on the configuration of the entire stack and allows you to modify some values.

Repeater Management

This section of the Stackable Configuration View provides the following information on the stack configuration:

Port Count
Displays the total number of ports in this stack.

Ports On
Displays the number of ports in the stack with a status of ON or NLK.

Ports Operational
Displays the number of ports in the stack that are currently transmitting or receiving packets.

Trap Configuration

This section of the Stackable Configuration View provides the following buttons controlling the configuration of the stack traps:

Link Traps

This button enables or disables Link traps for the entire stack.

Segmentation Traps

This button enables or disables Segmentation traps for the entire stack.

SEHI Stackable Model Information View

You can access this view by selecting **Stack Model Information** from the Icon Subviews menu for the **STACK** button in the Device View. The Stackable Model Information View provides attribute and configuration information for the stack, and allows you to modify the values of some fields. This view contains a subset of the information fields contained in the SEHI Model Information View.

Event and Alarm Messages

What is in This Chapter

This appendix describes the types of events and alarms generated by the SEHI. Additionally, this appendix notes if an event is also mapped to an identical alarm message, and provides any probable cause messages corresponding to these alarms.

Events and alarms originate as generic SNMP traps sent from the physical device. These traps, or unsolicited messages, are translated as SPECTRUM events and displayed in the Event Log. For more information on traps generated by a specific device, refer to RFC 1213, available through the Internet system. Also refer to the MIB documentation for the specific device.

Variable data inserted in a message is indicated by the following brackets: {}

For each event/alarm listed in this appendix, the following information is provided:

- The event code
- The event/alarm message
- Any probable cause message for the mapped alarm
- Any recommended actions

SEHI Events and Alarms

SPECTRUM supports the following events for the SEHI. The event message files are in the following directory:

Table 4-1.   **SEHI Events and Alarms**

Event Message	Probable Cause Message
CsEvFormat/Event00010203 {d "%w- %d %m-, %Y - %T"} - The model created is not the same type as the device. Model type = {t}, Name = {m}, User = {u}. (event [{e}])	CsPCause/Prob00010203 The model created is not the same type as the device.
CsEvFormat/Event00010306 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has been cold started. (event [{e}])	Not Applicable
CsEvFormat/Event00010307 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has been warm started. (event [{e}])	Not Applicable
CsEvFormat/Event00010308 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected a communication Link Down. (event [{e}])	CsPCause/Prob00010308 Communication link is down.
CsEvFormat/Event00010309 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected a communication Link Up. (event [{e}])	Not Applicable
CsEvFormat/Event0001030a {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected an Authentication Failure. (event [{e}])	CsPCause/Prob0001030a Authorization failure. Other user is trying to connect to device with an invalid community string.
CsEvFormat/Event00010401 {d "%w- %d %m-, %Y - %T"} - Device {m} of type {t} is created with an IP address already used by another model. (event [{e}])	CsPCause/Prob00010401 DUPLICATE IP ADDRESS The model has the same IP address as that of some other model.

Table 4-**1.**   **SEHI Events and Alarms (Continued)**

Event Message	Probable Cause Message
CsEvFormat/Event00010402 {d "%w- %d %m-, %Y - %T"} - Device {m} of type {t} is created with a physical (Mac) address already used by another model. (event [{e}])	CsPCause/Prob00010402 DUPLICATE PHYSICAL ADDRESS The model has the same Physical address (Mac address) as that of some other model.
CsEvFormat/Event000d0101 {d "%w- %d %m-, %Y - %T"} - Port {I 3} on module in slot {I 1} of {m} ({t}), has segmented.	CsPCause/Prob000d0101 The port has made 32 consecutive attempts to transmit that resulted in a collision each time or the port collision detector was turned on for longer than 2.4 milliseconds. Either of these collision occurrences are caused by a cabling problem of extremely high rates of traffic on the segment the port is attached to.
CsEvFormat/Event000d0102 {d "%w- %d %m-, %Y - %T"} - Port {I 3} on module in slot {I 1} of {m} ({t}), has unsegmented.	CsPCause/Prob000d0102 The port has transmitted or received a valid packet. This can occur when a cable or termination fault has been corrected. Unsegmenting can also occur on a port that previously was not in use.
CsEvFormat/Event000d0103 {d "%w- %d %m-, %Y - %T"} - Network configuration change reported by {m} ({t}). Device linked to port {I 3} on module in slot {I 1}.	CsPCause/Prob000d0103 A device supporting link integrity, fiber optic or twisted pair, has made a valid connection (link) to this port.
CsEvFormat/Event000d0104 {d "%w- %d %m-, %Y - %T"} - Network configuration change reported by {m} ({t}). Device previously linked to port {I 3} on module in slot {I 1} has ceased to transmit link integrity pulse.	CsPCause/Prob000d0104 A device previously linked with this port has been removed, powered down, or the cable segment has a fault.
CsEvFormat/Event000d0107 {d "%w- %d %m-, %Y - %T"} - Device configuration change reported by {m} ({t}). The module in slot {I 1} has been removed.	CsPCause/Prob000d0107 A module within this hub has been removed or has failed.

Table 4-**1.**   **SEHI Events and Alarms (Continued)**

Event Message	Probable Cause Message
CsEvFormat/Event000d0127 {d "%w- %d %m-, %Y - %T"} - An EPIM has been removed from port {I 3} on module in slot {I 1} of {m} ({t}).	CsPCause/Prob000d0127 An Ethernet Port Interface Module (EPIM) has been physically removed.
CsEvFormat/Event000d0128 {d "%w- %d %m-, %Y - %T"} - An (EPIM) has been inserted into port {I 3} on module in slot {I 1} of {m} ({t}).	CsPCause/Prob000d0128 An Ethernet Port Interface Module (EPIM) has been physically inserted.
CsEvFormat/Event000d0136 {d "%w- %d %m-, %Y - %T"} - Device configuration change reported by {m} ({t}). The module in slot {I 1} has been inserted.	CsPCause/Prob000d0136 A module has been inserted into this hub.

Index

L (continued)

S (continued)

T

U

V

W

Y